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Tuesday, March 1, 2011

Chair

Mr. Larry Miller

Standing Committee on Agriculture and Agri-Food

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● (1135)

[*English*]

The Chair (Mr. Larry Miller (Bruce—Grey—Owen Sound, CPC)): I call our meeting to order.

I apologize to our witnesses for the delay, but these things happen.

We'll move to Mr. Fabijanski. You have up to 10 minutes, sir.

Go ahead, Mr. Easter.

Hon. Wayne Easter (Malpeque, Lib.): Mr. Chair, I don't want to take much time, but I know we have scheduled Thursday and next Tuesday. A number of us have chatted about it and quite a number of motions are in the mill. Some of them are fairly critical to current issues. I would suggest either the steering committee meet to find a time that isn't on regular committee time or that we slate a week from this Thursday to deal with motions so that we can get some of them off our plate.

I think next Tuesday is slated for the report on one of the studies we did. A week from Thursday would suit me, but if you want to meet as a steering committee and come up with a time, that's fine too. In any case, we need to deal with some of those motions.

The Chair: Okay. I will talk to the vice-chairs afterwards, and we'll deal with those.

We'll move to Mr. Fabijanski. You have 10 minutes or less, please.

Dr. Steve Fabijanski (President and Chief Executive Officer, Agrisoma Biosciences Inc.): Thank you, sir.

I'd like to thank all of you for giving me the opportunity to come here and address the committee.

The reason I'm here is to provide an industry perspective on the current and emerging role of biotechnology in agriculture. I think we're all aware that the bioeconomy, which is the economy based on using biological organisms, is a significant component of the Canadian economy and currently supports over one million Canadian jobs.

Agriculture on its own is an essential component of that bioeconomy. I think the role of agriculture in this regard is substantial. It is a key component in providing us with food. As we look towards the future, we can also count on agriculture to provide our country with energy, new materials for manufacturing, and environmental solutions. I think one of the things we see here is that society has demanded a significant effort in clean technology solutions to a lot of what we face as a petroleum-based society.

We believe that agriculture, and in particular the role of biotechnology in improving agriculture, can offer some sustainable solutions to environmental issues while providing both food and energy for domestic and international markets.

I think a lot of people on the committee would appreciate that agriculture itself is the original clean technology. It is the way that we are able to capture energy from the sun and convert it to materials that go into commerce. We have a significant opportunity to utilize our land resource base to develop a series of products that are able to provide value to Canada.

The other thing that I think the committee is aware of is certainly something that has become recognized around the world: Canada has developed an enviable agricultural system. It has a strong regulatory system, a good production system, and a segregation system. Indeed, Canadian growers have been able to use that system to develop some innovative markets and innovative products. However, I think that everybody within the sector will recognize that current commodity agriculture will face increasing pressure from offshore commodity production.

There are many different ways that income diversification can be achieved at the farm gate by using different production techniques as well as by producing different products. The ability of Canada to innovate and use its innovation process to develop those products and to achieve durable economies in this regard is substantial. It's with this in mind that our company uses innovation to develop new products for the agricultural market.

Agrisoma is a Canadian company that is benefiting from the innovation chain. We are linked with all the past investments that governments have made. We are linked with the National Research Council and Agriculture and Agri-Food Canada. We are linked with producer groups, such as the Saskatchewan Mustard Development Commission. Over the last 10 years, we have been focused on bringing together various elements of this innovation chain to develop some unique products.

What is it that we do? We are a company that is developing a non-food crop to produce oil for commercial transportation purposes. The focus of our product is to preserve food production and target marginal land production and land areas that are non-productive for food to produce crops that can be processed to provide oil for use as a substitute for petroleum in various applications in commercial transportation.

We exemplify the small and medium-sized enterprises that have developed in Canada. We are the least known company in Canada, even though we've been around since 2001. We employ 15 people. We have invested $10 million to date, built on a $65-million platform technology, to develop products. We are focused on developing products within the next two years and delivering them to market. I believe we are Canada's largest wholly owned agricultural biotechnology company.

We've benefited from the support of organizations like Agriculture Canada, NRC, and Sustainable Development Technology Canada, which have recognized the value of what we're doing and have found creative ways to support us as we go forward.

Biotechnology is the core technology we use, but what we're really focused on is products that are good for the farming economy.

● (1140)

As a result of this, we plan on delivering to the farmers a number of things. We'll be delivering to them new products that can be used for income diversification and better utilization of land resources. We'll be able to enhance the rural economy by providing additional value-added opportunities for growers and processors. We will look to have environmental benefits through products that provide benefits on greenhouse gas reduction as well as sustainable agriculture, and we are looking to really build Canada into not only one of the world's largest suppliers of petroleum-based energy but one of the world's largest suppliers of bio-based energy as well.

As a company are really focused on being able to take what is a new market opportunity and utilize technology to deliver new and innovative products to the Canadian farmer; however, for us to be successful, we're really here to talk about some initiatives in the policy area.

One of the challenges that all small Canadian enterprises have is the ability to raise capital. We are at a disadvantage to sectors such as oil, mining, and gas because of the lack of flow-through shares available to the biotechnology industry. While these are available to those energy industries, we have a challenge in terms of being able to leverage private investment.

For example, Sustainable Development Technology Canada is an organization that has been very beneficial to us. They have an extensive due diligence process and investment criteria that force us to really look at products very critically and to look at the market critically. As a result of that, they are able to provide us with leverage funding for our own investment to enable us to get to market faster. Organizations such as SDTC have been very instrumental in our being able to go out there and raise additional capital because of our activities.

However, even with capital and even with appropriate resources to commercialize a product, what we do need is effective policy related to the regulatory side. Canada has a very strong regulatory process for its agricultural products. It has been developed with hundreds of millions, if not billions, of dollars of investment over the last 15 years to achieve a truly world-class regulatory system. However, as new opportunities come forward—and we're talking about new crops for energy, new crops for food, all sorts of new opportunities—the regulatory system has to be adaptable, it has to be clear, and it has to be relatively rapid in terms of its ability to assess and make approval for products, so we believe that it's important for us to utilize the strengths that we have developed to date with the regulatory system and build into that new regulations that will allow us to develop and commercialize new products.

In addition, for the bio-based economy and for our activities that are close to home, we believe that policy related to environmental solutions for some of the problems of commercial transportation can be developed. If we look at the recently mandated biodiesel standard, we see that being more aggressively applied within urban areas, such that commercial transportation in urban areas utilizes a safer fuel with less particulates and less pollution in areas where there is the most exposure to population.

These are some of the areas that we want to talk to the committee about. We want to tell you there are a lot of good things going on. There are a lot of areas of development that are going to benefit both the growers and Canadian society at large, and what we are hoping to receive from the government is not necessarily your money, but a clear policy and a clear framework for us to be able to go forward and commercialize these products.

Our technologies work. They work well, with an unprecedented success rate. Currently biotechnology in agriculture and in particular crops that have been engineered with new traits occupy over 1 billion hectares of production across the world. It is a sector that has grown very quickly. I recognize there is controversy around it, but a lot of the work that has been done in Canada has been able to show safety, efficacy, and quality of these products. We'd like to continue that for new opportunities at the farm gate.

We seek to assist the development of effective policy in both the regulatory and investment regimes to encourage the further development of agriculture into something that is truly a powerhouse and can drive even more of the Canadian economy.

In summary, we believe biotechnology can bring benefits to the agricultural sector as new value at the farm gate through product diversification.

● (1145)

We can provide environmental solutions, and we can also look at better controlling the impact of rising food and production costs to be able to produce food in a safe and sustainable manner.

I thank you for your attention.

The Chair: Thanks very much, Mr. Fabijanski.

We'll now move to the Organic Federation of Canada. We have Mr. Ted Zettel and Ms. Nicole Boudreau. You have up to 10 minutes, please.

Mr. Ted Zettel (President, Organic Federation of Canada): Thank you, ladies and gentlemen, for inviting me to speak to you today from the perspective of the organic sector.

My name is Ted Zettel. I have been an organic farmer since 1983.

Twenty years ago I participated in the founding of Organic Meadow, a farmers' cooperative, which is now the leading brand of organic dairy products in Canada. I am also the president of the Organic Federation of Canada, which represents the organic sector to the federal government on regulatory issues. I also sit on the Organic Value Chain Roundtable and have worked in consultation with their task force on genetic engineering to prepare these comments today.

For the last 28 years I have made my living producing organic food, developing and providing for organic markets, and teaching fellow farmers about the methods of cultivation and livestock husbandry that are needed to satisfy this growing consumer demand. There are about 3,900 certified organic farmers across the nation similarly engaged in and dedicated to organic production.

In June 2009 the organic sector saw the implementation of the Canadian organic regulations, which regulate the term “organic” and require all organic production and processing to conform to a national standard. Since that time, Canada has negotiated an equivalency agreement with the U.S. and is in the process of negotiating similar standards recognition agreements with Europe and Japan, the major global markets.

In 2008 the organic sector in Canada was worth about $2 billion in retail sales. Close to three million acres of farmland in Canada are managed organically. Global organic sales have gone from about $15 billion in 1999 to $51 billion by 2008. North America has been leading this growth in recent years. Now organic products represent about 3.5% of all food and drink sales here in North America.

Organics is an important segment of the national and global economy, and it is poised to continue to grow and to continue to appeal to the millions who want to buy food that has been produced without synthetic chemicals, in harmony with nature, and without GMOs—yes, without GMOs. The use of genetic engineering in organic agriculture is prohibited in all organic standards worldwide. The industry is clear and unanimous in prohibiting their intentional use. Many consumers who wish to avoid consuming products containing GMOs reach for organic for that reason, and because the law does not require foods with GMOs to be labelled, it is really the best way for people to ensure that the food they're eating is GM-free.

I stand before you today to speak on behalf of thousands of farmers and millions of consumers across the country who wish to choose organic and GMO-free food. Consider our rights, our choices, our desires, and our livelihoods when you deliberate on the policies that will determine the face of farming and the future of Canada's food supply.

First, let me emphasize that organic agriculture proponents believe that the most effective biological technology is the technology that can work without genetic manipulation. From a historical perspective, genetic manipulation as it is currently practised is essentially a new frontier with yet unknown and potentially harmful long-term health and environmental consequences.

The most effective biological innovations that will protect against weeds, pests, and diseases, build soil biological health and diversity, and produce healthy, nutritious food are encompassed by organic production techniques. We applaud Agriculture and Agri-Food Canada's involvement in the organic science cluster, which will further essential studies of these areas of knowledge.

All these avenues of developing agricultural practice build self-reliance within the farming community and contribute to the long-term resiliency of the food system, since they draw on the resources from within the farm and are aimed at the development of a self-sufficient farm ecosystem.

Do GMOs do this? No. To date, all genetically modified crops have been designed either to withstand chemical applications or to contain pesticide in the plant itself. We must be honest in assessing the effect GE technologies have had on agriculture.

● (1150)

The trend toward simplification of cropping systems and dependency on outside resource-heavy inputs, which is accelerated by the use of these tools, does not place Canada in a better position to respond to the challenges of the future. These technologies continue to be opposed by Canada's non-GMO and organic markets in North America, Europe, and Japan. Contamination by GMOs will continue to pose a problem for organic and non-GMO producers, so organic producers and consumers are at odds with the promise of biotechnology. Although it is clear that biotech crops make a lot of money for the biotech companies, the benefit to farmers or consumers is extremely dubious, even in the short term. It is also clear that GMOs threaten the viability of the organic sector when GM plants and seeds stray into organic fields and seed supplies.

While we in the organic food business are a small minority within agriculture, our opposition to genetic modification and the expansion of GM technologies remains firm, and we are convinced that our position is shared by a majority of Canadians.

Therefore, I would like to outline what we would propose to be the principles for establishing an agricultural policy that can be embraced by Canadians, a policy through which our government chooses to protect a sector of the food system that will be vital to coping with the coming era of resource scarcity and ecological uncertainty. These are the principles upon which we propose this policy be built.

Principle 1: organic agriculture is a production system with answers to many ecological and health challenges. Organics have a lower carbon footprint, use less energy, build soil, conserve biodiversity, protect our water, and produce products with lower chemical residues and, in some cases, higher nutritional value. Consumers want organic products both locally and in export markets. Organic agriculture is an important facet of the Canadian economy that must be protected.

Principle 2: organic consumers and markets expect organic products to be GMO-free. Products of organic agriculture lose their value if they are mixed with GMOs. GMO contamination is an unacceptable harm that must be mitigated and avoided.

Principle 3: organic agriculture is the gold standard for traceability, segregation, and identity preservation. This effort costs money, and this cost should not be borne solely by the organic sector, which is not the cause of the problem. Costs and measures for ensuring successful and respectful existence of both farming systems should also be borne by biotech users and biotech developers.

Principle 4: developers and users of GE crops should be held liable for their escape. Biotech companies and farmers growing GMO crops should compensate organic farmers for financial losses due to adventitious presence of GMO plants and seeds.

Principle 5: commercialization of GE crops should not be allowed without a full assessment of potential impacts to the environment and to health, as well as on the economic consequences for farmers, including market acceptance and the ability to produce uncontaminated seed.

In this regard, we cannot fail to comment on the imminent risk to the entire organic production system posed by the spectre of GE alfalfa. Not only is organic alfalfa exported as an organic seed, but it is also integral to the organic livestock and dairy sector—the value chain to which so much of our commerce is tied. It is also an essential in the crop rotation of most organic farms.

To compromise alfalfa does not compromise only a limited forage commodity. Alfalfa is grown in virtually every agricultural region from coast to coast. From the organic sector's perspective, the possible introduction of a GE variety undermines our entire system of production. We urge you in the strongest terms to delay the commercialization of GE alfalfa until a full examination of the economic consequences is completed.

Finally, principle 6: consumers have the right to know if a food contains products of genetic engineering. They should be given the ability to choose to eat these foods or to choose not to eat them. We believe that labelling of food derived from GE crops should be mandatory.

● (1155)

I thank you for this opportunity to share our perspective. I would be happy to answer any questions.

The Chair: Thanks very much, Mr. Zettel.

Now we have Mr. Phillips, from the University of Saskatchewan.

Dr. Peter W.B. Phillips (Professor, Johnson-Shoyama Graduate School of Public Policy, University of Saskatchewan): Thank you.

Let me begin by saying that this is an important study you've started. I think it's vital that Canada look at renewing and revitalizing its national agrifood policy. In that context, I think the core message coming from all of us, in one way or another, is that innovation is a core part of this renewal, not simply a means of sustaining the existing infrastructure.

I firmly believe there's a strong case and an opportunity to renew and accelerate agrifood innovation by intelligently and aggressively developing, adapting, adopting, and using advanced technologies of all types, including biotech, to enhance our position. Two pressures are inextricably driving us towards that view.

First, agriculture in Canada has two main competitors: one is the rest of the world, which is advancing in many ways; the other is the demand for the resources from agriculture from down the street. It's the demand for skilled labour from surrounding communities and cities, it's the demand for land from cities and industries, and it's the demand for capital from other areas. If agriculture isn't able to sustain at least an average return on its investment, then those resources will walk, as they have walked in substantial ways across the world. Right now, agriculture generates only about half the value added per employed asset, so it has a major gap relative to the rest of the economy. That gap could be filled; there are producers who are more productive than the average, but the average is below.

Second, poor international trade and market policies, compounded by inadequate investment in agrifood R and D around the world, have dampened supply at the point when demand is rising, so we now have spikes in many basic commodity prices. These spikes are causing unrest in many food-insecure parts of the world. We're jeopardizing 850 million food-deficit consumers around the world. Canada has both an economic and a moral imperative to respond.

Innovation isn't just about the next variety or the next grain elevator or the next air seeder. Innovation is a continual process of change. This creates real challenges for public policy, because it means that public policy itself has to be adaptable and change. The good news is that Canada is well positioned for that. We have 100 years of successful innovation, partly driven by the industry, partly driven by government, and partly driven by non-governmental organizations and commodity and producer groups, and some of those have been quite spectacular.

You've heard about the global agrifood impact of GM technologies. In Canada alone, we have generated significant value for producers, for the industry, and for consumers around the world from the introduction of a variety of high technology products in category lines like canola and wheat. I think there's significantly more opportunity to do that as we adapt and adopt the technologies.

The opportunities are fairly large, and if you spend time with the science community, you'll see significant unrealized potential out there. We have the possibility of dealing with biotic and abiotic stresses through traditional and non-traditional breeding techniques. In addition, we have the opportunity to develop competitive and accessible elite germplasm lines. Particularly in a period of increasing privatization of the downstream varieties, those elite germplasm lines are the bedrock of a national policy in the grains and oilseeds business.

There's also significant room for quality differentiation. This industry makes most of its money from differentiated food products. It's not producing commodities anymore; it's producing high-value-added crops and oilseed. There's a lot more that could be done. That's why we need to find room to have organic, GM, and more advanced industrial agrifood products within the same legal, commercial, and regulatory systems.

Biofuel is an area people have been talking about. These biofuels have various industrial uses, including the environmental services that come from bioremediation. Ultimately many of the plants, animals, and microbes that fall under your ambit, I suspect, have the potential to become the ultimate green biofactories.

Now that's a big challenge. That's a massive change in the way agriculture is structured, but in the end it's about differentiation of products, technologies, and services, and those efforts need new regulatory and management systems. The good news is that we're extremely well endowed. There is the infrastructure at Agriculture Canada and NRC. You have some of the world's best technology in places like Saskatoon, where they have VIDO-InterVac, the vaccine and infectious disease site, along with Canadian Light Source, which I believe you've had an opportunity to investigate a bit.

● (1200)

Those are probably the cutting edge of the new management and regulatory systems of the 21st century. Agriculture will not be a 19th century technology if it's going to be successful; it will be a 21st century one.

Similarly, in places like Saskatoon and Guelph and elsewhere, you have some really powerful and exciting public-private partnerships that even in the absence of government decision are driving significant industrial development.

In Saskatoon, for example, the Saskatchewan Pulse Growers, working with the Crop Development Centre, have become the world centre for pulse production. That has generated a multi-billion-dollar industry in Saskatchewan and in western Canada and similarly has generated food production that's vital to the nourishment of many of those 850 million people who are in food-deficit parts of the world.

So there's a need and there's an opportunity. What are the choices that face us as a government and as a society?

I would argue that accelerating innovation in the Canadian agrifood system will require a combination of new policies, programs, and partnerships that will mobilize the capacity we have and link it to the rest of the world. The trick is to create a sense of purpose and certainty. In the absence of that, conflict and lack of focus will create uncertainty, which will not only reduce the value of public investments but will drive private investments away from the sector. We'll be in a lose-lose world.

There are three particular policy areas that I want to touch on. The first one is that the research effort needs to be improved. Canada used to be a leading agrifood research centre around the world, but if I look to Ottawa and the messages coming out of Ottawa today, they've written off agriculture as a sunset industry. The S and T policy that was announced back in 2007, which is now beginning to trickle into various policies and programs in Ottawa, is explicitly exempting or cutting out agrifood-related research and development opportunities. The centres of excellence, NSERC, and the excellence research chairs have all said, “Don't come to us”.

The second area is that the federal government often works against the natural flows of research and development. We tend to break up the agglomerations that scientists in industry want and need to bring technology to market. Federal labs in many cases have been disconnected, and when there has been success, it's been because they brought them together under one roof and in partnership with industry, such as in the Plant Biotechnology Institute in Saskatoon.

Federal funds are increasingly for the short term, one to three years. The research community and the leading research parts of the world are investing seven to fifteen years out, and we're being cut back to one- to three-year cashflows. On top of that, that one- to three-year cashflow has about a 40% to 60% overhead cost of just getting the money, administering the money, and shutting down the projects. You're getting a lot of stop-start work that doesn't really generate the long-term value that I know you're desiring.

As well, the administrative rules of just dealing with government—I mean, it's the reality of the 21st century—are costing these programs significantly. Lead scientists are spending most of their time bidding for and managing projects, not sitting in their labs and commercializing technologies.

A second area is intellectual property. A couple of weeks ago you heard one of my colleagues, Richard Gold from McGill, so I won't belabour that. Suffice it to say that the intellectual property system is a critical part of a 21st century agrifood technology. This will not work entirely by open-source innovation. There has to be some open-source and some highly proprietary assignment of technologies and products.

Third, Canada needs to complete its regulatory system. Arguably—and I fully agree with Steve—we have one of the best and most respected regulatory regimes for biotechnology and for agrifood in general around the world. We were cutting-edge. The key word is “were”: for the last ten years it's been stalled.

I sat on the Canadian biotech advisory committee, and we developed a variety of reports and recommendations in consultation with the Royal Society panel report. Nothing happened. We have whole areas of the regulatory regime that are just waiting for a decision. It's not that we can't say “yes” to Steve; we can't even say “no” or “maybe”. It's always, “Come back tomorrow, and we'll tell you if we have an answer to the question”. That drives public and private capital out of these areas.

● (1205)

Let me conclude. I think you have a golden opportunity here to actually craft a 21st century public policy that will not only meet our national economic interests but will serve broader moral interests around the world. The real challenge is whether the federal government will be a leader or a follower—or will it simply be pushed or have to move out of the way to let others in Canada or elsewhere take the lead in these areas?

Thank you.

The Chair: As is the custom, sometimes when we're short on time, we cut back to five-minute rounds. Is there agreement to do that?

Some hon. members: Agreed.

The Chair: Thank you.

Mr. Valeriote, you have five minutes.

Mr. Francis Valeriote (Guelph, Lib.): I want to thank all of you for taking time out of your day to come to speak to us today.

Peter, I want to thank you for your comments about the Canadian Biotechnology Advisory Committee. My question will be about that.

One of the reasons Mr. Hoback and I brought this motion to have this discussion was that Bill C-474 brought us an opportunity and a realization that issues were unaddressed and that we have to address them.

My question to you, and frankly to Mr. Zettel, is this: will reconstitution of that committee bring the parties together in an equitable, fair way—because there are a lot of stakeholders who should be around that table—that will honour the principles Mr. Zettel has enunciated on behalf of the organic industry so that there can truly be coexistence of organic and non-organic standards?

I am wondering if you talk about low-level presence as one of the possibilities, or not, of compromise. Can you talk about growing distances between GMO and non-GMO crops as one of the possible solutions, or is that unrealistic?

Could I hear from both of you on that issue?

Dr. Peter W.B. Phillips: Let me make a couple of quick observations. I was the co-chair of the GM review of the regulatory food system for CBAC from 2001 to 2004, and I was on CBAC from the beginning to the end, so I have some experience with how that worked.

You have asked two questions that I don't think one mechanism can solve. There's a broad public policy question about acceptance or not of multiple technologies within the same system. That's a broad public policy question, and CBAC, quite frankly, wasn't able to deal with it. I'm not sure that any third-party institution can do that. I think that's something committees like yours can do. They can bring out the views and try to bring them together, because at the end of the day, it's not about what I or Mr. Zettel believe. It has to be an amalgam of those two views. That's the first point.

The second point is that you've asked very specific questions about low-level presence, adventitious presence, and how the system actually works. Yes, I think there's a lot more that can be done. In fact, over the last five or 10 years, various bureaucrats in your federal administration have been working very hard to develop rules and mechanisms so that we can have practical coexistence. We may not have that big of a public policy debate, which is yet to be held, but at the operational level, producers could be certain that when they plant a certain crop, the right mechanisms are in place to ensure the quality the end consumer wants.

That kind of debate is actually going to take place in Canada later this year. There's been an event called a coexistence conference that has been operating around the world. It started in Europe, where most of the focus was on having that high-level discussion. Do we want GM, and how do we keep it out of a system that is currently GM-free? It went to Australia two years ago, and the discussion ended up being about being halfway pregnant—we've introduced a few GM crops, but not all of them, and we're not sure where to go from here.

It's coming to Vancouver at the end of this year, and we're not going to have that high-level discussion; we're going to have that very practical discussion about how it is that in various parts of North America and in other parts of the world you can actually have organic, conventional, and industrial crops operating within the same agro-economic system. I think it's at the operational level that you can devolve authorities. In fact, most of those things come out of standard-setting bodies anyway, or through commodity groups getting together and sorting them out. I'm not sure that you can devolve that high-level debate beyond the political realm. At the end of the day, CBAC was told by 270 NGOs that they were not the venue for holding that discussion.

● (1210)

Mr. Ted Zettel: I think that if the right people are in the room, a meaningful discussion about the food issue can be entertained. It's something that would help a lot and it's long overdue. We have introduced these technologies into the food system without consulting with people, without informing the people, and without giving the people any choice in the matter. That's unconscionable in a highly developed modern economy with a well-educated populace. If the common good is being served by these technologies, then surely that's something we can convey to our people and have them buy into, but we seem very reluctant to do that.

I think the answer to your question is that if the right people are in the room and if the population is well represented—and not just those who want to develop the technologies—then I think that' s a very good idea. It's a forum we would be happy to participate in.

On the issue of adventitious presence, which is a very critical issue, we have to keep in mind what I suggested: we're on the verge of releasing a new species, genetically modified, that is in a league of its own with regard to contamination of the agricultural landscape. That is alfalfa. Let's talk about getting that stopped. Then we'll talk about how to deal with the ones that we've already introduced.

The Chair: Mr. Bellavance, you have five minutes.

[*Translation*]

Mr. André Bellavance (Richmond—Arthabaska, BQ): Thank you, Mr. Chair.

Good afternoon, and thank you for your presentations.

Mr. Zettel, in your remarks, you mentioned studies showing that pesticide use on corn and soybeans has continued to increase. But the argument we often hear from companies producing genetically modified organisms is that they will use fewer chemicals on the crops. Could you please send those studies to the clerk? The members of the committee may benefit from that information before we prepare our report.

You also mentioned buffer zones. At our last meeting, we heard from an organic grain and dairy producer from Manitoba. And I am going on his testimony here. He told us that in the case of alfalfa, he had contacted the Monsanto company to inquire about its policy on the use of buffer zones. According to this producer, Larry Black, Monsanto intended to recommend a 0.8-kilometre separation between the GMO alfalfa and other alfalfa crops in order to prevent cross-pollination. He said Monsanto told him that organic consumers would have to accept a small level of GMO contamination.

My question is this. In the case of canola, I know there has been contamination. I know there has been contamination in other crops in the United States—rapeseed, if I am not mistaken. And we are hearing that may also happen with alfalfa. The Bloc Québécois is also calling for buffer zones. Some argue this may be enough to prevent the contamination of non-GMO crops and organic crops, but is that true? Can we be certain that no cross-contamination will occur?

● (1215)

[*English*]

Mr. Ted Zettel: The best information I have from the scientific community is that if GE alfalfa is introduced, there will be no way to completely eliminate contamination of the seed supply, because the set-aside distances would be so great. There is a lot of evidence that pollination occurs at up to 2.5 kilometres. That's a long way to get your field away from somebody else's field in any agricultural region. You would almost have to have a specific region set aside for the purpose of producing the GMO seed and keeping it there and not letting it out.

The other thing is, who is going to do this? Up until now it's the organic people who have had to find a secluded little spot somewhere to be able to grow their GMO-free crops. Is that fair? Is that really a reasonable solution? We're saying that if they want to introduce these things, that burden of keeping things pure should be placed on them. They should pay for it. They're the ones who should have to introduce the buffer strips and buy up enough land so that they can find an isolated place to grow their GMO crop.

[*Translation*]

Mr. André Bellavance: I would like to hear what Mr. Phillips or Mr. Fabijanski has to say about that. Is alfalfa different from other crops?

[*English*]

Dr. Peter W.B. Phillips: I'm not an expert on alfalfa, but let me offer two thoughts on your basic question.

The first one was about evidence around the effect of different technologies on different producers. I have shared with your clerk, and I'll make available to the committee if it wishes, more comments that I didn't speak to today. They deal with studies done in Canada by my research team, studies asking questions about the economic effect, the agronomic effect, the use-of-chemicals effect, and the environmental effect of the chemicals that were used. Many of these industries, if they're not organic and are just conventional producers, use chemicals no matter what seed is used. It's just a question of which chemical is being used. Some of the chemicals have a lighter environmental footprint—not a zero footprint, but a lighter environmental footprint than others.

The second question goes to buffers. It's a really good question: what's the appropriate buffer? It's not clear. At the moment we use buffers for health and safety reasons. We have buffers built into our systems. We have them built into the contract registration system that's used. If you're producing high uric acid rapeseed, which produces a chemical that is deemed to not be safe in the international food system, we have a contract system that imposes buffers and controls. We use it for very explicit purposes. The other place we've used buffers is in the area of Bt corn, where we've tried to avoid the introgression of this and create at least a base population that's not resistant to the Bt gene in the plants.

Those both had very direct purposes. We have never used buffers for commercial purposes. We've always said that it's up to the industry to decide how to do buffers. It's not just organic and GM that would be interested in buffers; we have 90 or more differentiations of wheat alone, and every one of them has a potential of some cross-contamination. Similarly, in the canola world there are 300 or 400 varieties, many of which are differentiable. Each of them wants to sustain a prime quality.

If you open up the notion of buffers for economic reasons that are defined by regulation, you risk the possibility that you'll create a system in which no new variety that has a differentiable trait can enter the market. That's my big fear—that with the best of intentions, you achieve the worst of outcomes.

The Chair: Go ahead, Mr. Atamanenko, for five minutes.

Mr. Alex Atamanenko (British Columbia Southern Interior, NDP): Thank you to all of you for being here.

One thing this study is showing is that the biotech industry is very diverse and that GE is only a small part of it. They're not the same thing. We know that all the major breakthroughs in varieties and yields have come through either conventional breeding or with biotechnology, but not GE, where we have two traits: herbicide resistant and Bt.

Peter, you talked about public research. Cherry growers in my area recently approached me saying that they're concerned about Summerland, where scientists are not being replaced. We know that we need long-term funding, and we also need it for you folks, Mr. Fabijanski, to assist with biotech. I'll come back to that in a few minutes.

Mr. Zettel, you mentioned that GE alfalfa would basically destroy the organic industry. We have fruit growers and organic growers in my area who are extremely concerned about the new non-browning GE apple. We've had testimony about wheat. Of course, my bill was defeated, but would it not seem logical to call for a moratorium? Specifically in your case, because it seems to be more critical, there should be a moratorium on GE development of alfalfa until stakeholders work with government to determine the feasibility of it. There should be a moratorium on the GE apples so that the food growers and government can work with that issue and the industry. There should be one for wheat also. In other words, before we do this, we should at least have some kind of thorough study. All indications are that it would destroy your industry completely. I would think there should be cooperation with the biotech industry and the organic association and other farmers to say, “Look, let's not take away this livelihood. Let's get this done”. Is it practical to think in terms of calling for a moratorium, specifically in the alfalfa sector?

Would you comment, Mr. Zettel?

● (1220)

Mr. Ted Zettel: I think it's an absolutely reasonable idea, given that there's very little benefit to GE alfalfa. I mean, I've talked to farmers across the country. I've grown alfalfa, harvested it, and fed it since I was knee-high. We don't need GE alfalfa. It's of very limited use in the industry, so when you take a risk-benefit analysis, you've got all the risks and really very dubious benefits—very, very dubious benefits.

Now, my colleague here has some worthwhile ideas about developing biotechnologies that could actually act in the common good and be good for people, Canada, industry, and farmers. I don't want to see his work held up because there's a moratorium on alfalfa. I think that probably one of the great defences against the idea of stopping alfalfa is the cry that if we stop alfalfa, Monsanto will walk away, the funding will dry up, and we'll ruin the biotech industry.

That is not the purpose. Alfalfa is a very specific case. These things are very specific and have to be dealt with individually. I think a moratorium on alfalfa is completely reasonable and defensible. I don't think it should be an overall moratorium or hindrance to the very good types of biotechnology that are developing new medicines or new uses for plants outside of the food system.

Mr. Alex Atamanenko: What do you think, Mr. Fabijanski?

Dr. Steve Fabijanski: Well, the problem with any moratorium is that it starts a process of saying that we will examine whether or not you have value prior to your demonstrating that there is market value. This does actually drive away investment, and it drives away focus for the industry. Generally speaking, biotechnology products are brought into a regulatory regime that, as Peter said, is a world-renowned regulatory regime that assesses the quality of safety and environmental aspects. It looks at these aspects very closely and allows people to generate something that the market wants.

We've heard this in the case of HT canola. People said we should put a moratorium on it, yet 90% of the growers are using HT canola, for an obvious reason. I think that going a priori and saying that we need to put a moratorium on things that we don't like and just stop developing them to do more studies creates a very simple question: who's going to pay for the studies, how long will they take, and who's going to control the outcome of those studies?

● (1225)

The Vice-Chair (Hon. Mark Eyking (Sydney—Victoria, Lib.)): Thank you.

We go now to Mr. Lemieux.

Mr. Pierre Lemieux (Glengarry—Prescott—Russell, CPC): Thanks very much, Chair.

Mr. Zettel, I'm really enjoying your comments this morning. We've had a number of committee meetings on studying the biotechnology sector, and usually the conversation seems to gravitate towards the argument of GM versus organic. I think for almost every meeting we've had a nice balance. We've had an organic presence and we've had a non-organic or pro-GM presence. It's been good to have the discussion.

I've detected in some of the conversations we've had before with some of the more organic-oriented people who came before committee that they felt very threatened just by the existence of the GM crops, but what I'm reading here, and what I'm hearing you say, actually, in addition to what you delivered in terms of testimony to the committee, is that you're talking about a respectful existence of both farming systems and about measures that can be put in place to ensure that there is a respectful coexistence. I like that, because I think it better matches reality, reality being that it's very hard to put a moratorium on all GM. It's also very hard to say, on the other hand, that we should go full steam ahead on everything GM. Instead, we're going to have to find compromises here, and we want to make sure that policies that are put in place do foster this respectful coexistence, which is what I would call it.

We had the soybean growers in front of us. Within that product, that commodity, there are GM and non-GM soybean growers, and they seem to coexist. The question I asked was whether those farmers are getting along or whether they're at odds and at each others' throats about some of the issues that are being discussed. There's contamination and everything else. The response we got was that they seem to be coexisting, that there's mutual respect, and that they want to take appropriate measures.

I'm just wondering if you could expand on that a bit, because I found it encouraging and refreshing. I'm wondering if you can perhaps tell the committee what kinds of measures you would envision that would allow for this respectful coexistence.

Mr. Ted Zettel: Absolutely. Just to repeat, that is our goal, respectful coexistence, because we're a minority group within the farming community. Most of our neighbours are conventional farmers. Many of them are growers of genetically modified crops, so we have to find a way to work together.

Every crop is different. Soybeans are not a big problem. There's not a lot of drift between the GMO soybeans, and we can grow organic soybeans in the same area. The same with corn. You get a couple of fields in between or a bush in between and you're okay. Alfalfa is an entirely different story. That's where we have to make that distinction.

What can we do from a policy level? I think the fundamental thing to look at is a shift in the onus of keeping these products pure, a shift away from where it's always been traditionally, which is on the side of the organic farmer, and put some responsibility on the people who introduce the contaminating crop. Right now there's no such thing. There's nothing. As soon as the product is licensed, a new GE species, you can take it out and grow it anywhere. If it goes across your fence and contaminates your organic farmer's crop, which he's been growing and selling for 20 years, and now he can't sell it, you're free from any liability.

Mr. Pierre Lemieux: If I could interrupt for a second, do you see the liability being more at a personal level, meaning one farm has an issue with another farm, or do you see it more at an organizational level, where you might have one sector or organization providing that kind of support or protection or compensation that you were talking about?

Mr. Ted Zettel: I'm not a litigation lawyer, but I know that liability tends to work its way up. It starts off at the individual level and works its way up to the supplier of the product and so on. There would eventually be a level of responsibility for the company that provides the product as well as for the individual farmer who uses the product.

In a dialogue as to how to keep these things separate, we could develop ways whereby there's a sharing of the responsibility that I think would be workable, but we need to establish the principle that both parties are responsible.

● (1230)

Mr. Pierre Lemieux: Let me ask one last question in the few seconds I have left.

Steve, because we have a lot of discussion about GM, could you move back to the biotechnology view of things and give the committee some concrete examples of biotechnology—not necessarily GM—in which these biotechnology advances are helping farmers and helping consumers?

Dr. Steve Fabijanski: I appreciate the opportunity to say that.

I think that for biotech, in terms of things like tissue culture, all canola varieties that are currently being grown—whether they are organic, GE, or conventional—were derived from a biotechnology process called anther culture, which makes them genetically pure individuals. Every variety goes through that. It's the same with wheat. The development of wheat came from the prairie regional laboratories; McKenzie wheat and other types of wheat have come through these tissue culture processes. These are processes that allow one to essentially modify the genetics of an organism through conventional techniques and essentially clone or develop unique and genetically pure varieties, which are desired by industry in order to deliver not only the uniform performance that growers need in order to schedule their production but also to provide very uniform yield at the end in terms of quality and overall consistency.

Mr. Pierre Lemieux: And that might be non-GMO as well, right?

Dr. Steve Fabijanski: Exactly; they'll be non-GMO or conventional. They all go through that same biotechnology process, which is a laboratory process for producing them.

The Chair: Thanks, Mr. Lemieux.

We'll now move to Mr. Easter for five minutes.

Hon. Wayne Easter: Thank you, witnesses. Those were good presentations, and we heard lots of different opinions.

I have one simple question to start with. Where is this huge demand in Canada coming from for GM alfalfa? Peter, can you answer?

Dr. Peter W.B. Phillips: No, I'm not an alfalfa guy. Maybe I can address that a little more deeply, though.

This is the question of how an innovation enters a marketplace. In the absence of a market access, you never you know what demand will be. I did some work on GM wheat, and we had estimates in the public domain of 0% to 100%. When we did the survey in Canada and the United States, we found 30% to 40% would take it up in the first year, but in very small amounts, just to test it, as they did with canola back in the 1990s.

Hon. Wayne Easter: Ted, do you know of anyone demanding it in Canada?

Mr. Ted Zettel: Among the farmers, no, I don't.

Dr. Steve Fabijanski: I'm not familiar with the alfalfa market, so I can't comment.

Hon. Wayne Easter: I went through the rBGH fight—in fact, I led it—whenever it was, in the late 1990s. We heard the same thing you said, Steve—that investment would dry up if we dared ban it. I remember Monsanto sitting in the room and the lobbyist phone calls and MPs being taken out for meals. My God, there was going to be a huge disaster. Has Canada been hurt because we didn't have rBGH? I don't think so.

In fact, I believe Walmart right now is saying they don't want milk produced with rBGH in their stores. I maintain that there are good GMOs and bad GMOs. I think we, as the public, have to err on the side of caution. With everything I'm hearing on alfalfa in particular, I think we have to err on the side of caution. I guess it's a question of how you find that balance and how you establish the regulatory system to weed out the good from the bad.

Peter, do you want to answer just one other question on that area? I know from the rBGH fight that trying to get information out of Health Canada was like pulling hens' teeth. In fact, they were on the side of Monsanto. You couldn't get information from them. How do we, in our position, set up a system in which you get public independent research that isn't from the company doing its own and promoting its own self-interest, but is research that has no axes to grind and no favours to make?

● (1235)

Dr. Peter W.B. Phillips: I have two quick points. First, regarding the order, CBAC actually gave you the answer on that. We need more transparency. Canada publishes virtually nothing when we review things. In the United States, they put most of it in the federal registry, so there is a process. It's just that somehow justice has got us tied up so that everything the firms produce is now deemed to be commercially confidential. Many of the firms say they'd rather have the regulator release it. If they release it, it looks as though it's not the same stuff. It's that question of providence.

Let me go back to the first question, which was about how we know what the government should do around these new releases. You'll remember that I said you could lead, follow, or get out of the way; well, one way of leading is a moratorium, but that has significant effects, and you have to know you are right: if you make a mistake, the government is going to be held responsible for stalling a technology that might have been valuable.

A second model is to follow. The introduction of canola is a good example of that. The canola industry worked with the proponents and the new technology. They worked with the grain commission. They worked with the scientists at Agriculture Canada and NRC. They went out and positioned it in an identity-preserved system that contained it until they had regulatory approval in Japan, which was their key foreign market at that point. That's the second model: follow.

The third one is get out of the way. I'd argue that's what happened in wheat. The federal government didn't really say anything about wheat. They were just mum. It was the producers, 206 NGOs, the Wheat Board, and a whole bunch of others who said, "Look,"—as they might do in the alfalfa case—"we don't want that technology at this point in our marketplace".

So you have stages of options. It's not moratorium or nothing. If there is a will, there is a way of managing the safe introduction or the rejection of a technology through the marketplace.

The Chair: Your time has expired, Wayne.

Be very brief, Ted. They're out of time.

Mr. Ted Zettel: Just to comment on the rBGH dispute, I also was involved in that back in the late 1970s. I was at a meeting two weeks ago here in Ottawa with heads of Health Canada, the Dairy Farmers of Canada, and the organic sector. I can safely say there's nobody in the dairy industry in Canada who isn't overjoyed that we dodged that bullet. That's hindsight now, but we're glad we don't have that. It was a disaster for the U.S. dairy industry.

The Chair: Okay, thank you.

Mr. Hoback, you have five minutes.

Mr. Randy Hoback (Prince Albert, CPC): Thank you, Mr. Chair.

Mr. Chair, actually this is really interesting. This morning I had a clipping come across my desk. The EU is now going to accept a 0.1% low-level presence in feed grains, so we're already starting to see the results of our committee work in talking about low-level presence. I really want to commend the minister and the staff for working with the EU to get a low-level presence that's actually going to help our guys out.

I want to go back to the biotechnology study. We get into conflict over GMOs, and I find that really frustrating, because GMOs are just one finger in the spoke. I understand there are issues around certain crops such as alfalfa, or whatever, and everything else, but in the biotech sector—and I think everybody needs to understand this—there's the regulatory approval process they have to go through, and then there's the registration process through which the variety gets registered and actually gets grown.

I find it interesting. The alfalfa might go through the regulatory process, but then it will have to go through the varietal registration process. That's when everything will come out in terms of market acceptance, what varieties will be acceptable, and that whole end of it. That's where we'll see the debate that we saw in wheat when we decided not to go down the course of GMO wheat.

I don't want everybody to get out of control, saying that just because alfalfa has been approved through the regulatory process, it's going to be planted next week somewhere in Canada. If they grow it in the U.S., we can't control that. The U.S. will do what the U.S. does. That's the way it is, so we'll go from there.

One thing I want to look at is that I think the biotech sector offers a lot of answers to the GMO type of crop breeding. There are other types of breeding using genetics or genomics, and we can go there. What do we do to encourage these types of breedings in these types of sectors to grow?

Steve, you talked about raising capital and flow-through shares. Do you have any other ideas about what we could do to help your sector grow? We need that sector to grow. What are the barriers limiting your growth right now?

Dr. Steve Fabijanski: For us, the barriers limiting our growth are really in two areas. One is how long it will take me to get to the point where I can actually bring a product to market and understand if the market is going to accept it. Respectfully, I would say that suggesting we should put a moratorium on certain products because we're not sure about them doesn't help, because it really does give uncertainty. The uncertainty discourages private investment.

The other thing we have to look at to make the sector grow is getting people to become aware of the fact that agriculture is not only about food. It's about the environment. It's about developing new opportunities. It's about land stewardship. It's about a lot of things that the general public and probably even a lot of general members of government don't appreciate in terms of what agriculture can bring to the table, and that's the sort of policy we need to encourage so that it cuts across. It's actually far more than just farming. It's an economic engine, and it's an economic engine that needs to be fuelled and speeded up so that it can create more value.

● (1240)

Mr. Randy Hoback: I know you talked about the regulatory side of things being an issue. There are new technologies that have come into the system compared with what we had even five years ago or two years ago. Is the regulatory system fluid enough and advancing quickly enough to keep up with the new technologies and to allow us to speed up the process while doing so in a safe manner?

Peter, could you comment on that?

Dr. Peter W.B. Phillips: In some places, yes, it is; in many places, no, it's not.

It's not that the regulators aren't capable of doing the technical assessment. In many cases, it's that the legal authorities for them to be able to make a judgment are delayed. They're in the pipeline; they're just not fully articulated. There's a gap in the regulatory system, and you can't point to any one thing and say, “If you could just fix that one thing, the system would work”. What you're hearing from companies is that they have a vague idea that the system is improving, but there are some gaps there, and that's a hard sell when you go to the private capital markets to raise funds for the commercialization process, which is where a lot of the costs will be.

You asked how we can accelerate innovation. Let's look at the federal side. You spend a lot of money, but you don't always spend it very well. You spend it in short bursts, and you often end up putting it in interesting places, but it doesn't necessarily go to the high-impact places. I think if you had some discussion with the Genome Canada world, which is working with Agriculture and Agri-Food and the environmental file, you'd find that they've put virtually nothing in the last five years into any major crop area: there was nothing in pulses, nothing in canola. Canola's wrapped up. There was nothing in wheat and virtually nothing in the livestock area. You have a lot of good science, but it's not connected to the needs of the industry today.

Then there is the IP question. The federal government owns a lot of intellectual property. Don't kid yourself: you may be a public-good institution, but you have a lot of private intellectual property, and it's hard to get it leveraged out in some cases. Federal policies are sometimes more stringent than those in the private sector, so it's extremely expensive to license or commercialize technology. That's an area that I know Industry Canada, Agrculture Canada, and all the other agencies that do research have been concerned about. It's one that we talk about and study, but we revert to the stovepipe that each individual entity owns its intellectual property.

I've heard from private companies that in some cases it's easier for them to go as an agent of two public institutions to do the licensing of technology between two public institutions, meaning that NRC and Ag Canada sometimes can't get the technology between them, even though it's held in the name of the Queen, yet a large multinational can do it. You have a bunch of these things generating frictions that slow down commercialization and value generation.

The Chair: Thank you, Mr. Phillips.

I'll move to Ms. Bonsant.

[*Translation*]

Ms. France Bonsant (Compton—Stanstead, BQ): I want to come back to you, Mr. Zettel.

You said many farmers were moving to try to find a better environment for organic farming. The distance of 0.8 kilometres between GMO crops and organic crops is insufficient because of the wind, air and pollination.

Who do you think should be responsible for compensating the commercial losses of organic farmers? An increasing number of organic farms are unable to sell their products. Eventually, they will go bankrupt. Who should be responsible for the loss of income suffered by those farmers?

● (1245)

[*English*]

Mr. Ted Zettel: As a taxpayer, I'd probably be disappointed if the government ended up being responsible for that. Let's face it: when we consider the ones that are already out there, the ones that have been used by innocent farmers for 15 years, we're not going to go back and make them responsible for that loss.

However, we have the future to think about. If there's a new product on the horizon that's going to multiply this problem, we can stop it. That's the first and most sensible thing to do.

In addition, I think that the provider of the seed has to be partially responsible at some point, along with the person who buys the seed and grows it. They'll take precautions against that kind of economic impact on their neighbours if there's a possibility that they'll be held responsible, but we need regulatory changes to put that in place.

[*Translation*]

Ms. France Bonsant: Mr. Phillips, earlier you mentioned private investors. I have trouble imagining who would invest in seeds, other than Monsanto or Cargill, because I don't think there are many people with the wherewithal to develop certain seeds and get them approved.

There are a few organic companies in my riding that offer environmentally friendly products, but they do not have $100,000, $150,000 or $200,000 to get those products approved. Are you not concerned that, in the long term, too much private investment will lead to monopolies or one company with a monopoly over all the seeds, to the detriment of those who do not want to be forced to buy those same seeds?

[*English*]

Dr. Peter W.B. Phillips: Let me make two observations.

To the first question of whether there is private capital coming in, other than through the large multinationals, the short answer is yes. Most of the crops that are produced in Canada are subject to check-offs. Those check-offs are becoming quite a lucrative cash flow. For example, the pulse growers in Saskatchewan have done a five- to seven-year deal with the Crop Development Centre that's worth $10 million or $15 million. They have substantial capital, and have had for a long period of time in various crops, to direct research. In many cases they're not the majority of the money, but their money is very influential, because wherever they put it gives the multinationals a sense of where there might be a better market opportunity.

Your second question was the concern about a monopoly. Yes, that is a major concern when we lock into very high regulatory cost systems. The only people who can get through are multinationals. This happens in the drug industry. It happens in the agrifood industry and in the financial industry.

For all the best reasons, we erect barriers to entry, and then the only people who can get through are the wealthy. The response to that in many countries around the world is to ensure that we have a very effective elite germplasm line. These companies aren't producing elite germplasm in most cases, except in corn. The rest of the industry is adding technology on top of what's publicly available, so as long as you keep an elite germplasm line operating and effective, it means that any new entrant can come along and contest that market.

The good news is in the crop that we as Canadians put forward into the GM technology world: canola.

We do have competition. We have three major multinationals duking it out. They're not extracting the rents, the profits, that many of them thought they might, because they have to compete against each other. They're certainly getting a good profit, but they're leaving a fair chunk in the hands of producers and they're leaving a fair chunk in the hands of world consumers.

Monopoly is a critical issue, and in certain product categories there is a virtual monopoly by certain companies. The challenge is to create a system that attracts more than one large enterprise or that allows these producer-financed commodity groups to drive the research agenda so that even if there's a monopoly rent, there's a good chunk of it left in the hands of producers.

The Chair: Your time is up, Ms. Bonsant. Sorry.

Mr. Shipley, you have five minutes.

Mr. Bev Shipley (Lambton—Kent—Middlesex, CPC): Thank you, Mr. Chairman.

I have a quick question. Actually, it's a request to Mr. Zettel.

In describing your principle 1, you indicated that organics have a lower carbon footprint and use less energy. I'm not sure what that's compared to. Would you please send us, as a committee, the research and the documentation for that statement?

● (1250)

Mr. Ted Zettel: Yes, absolutely.

Mr. Bev Shipley: Great. Thank you.

Steve, the company that you have is an intriguing industry. We haven't really talked much about it, other than through your presentation, so help me a little bit. You're talking about being able to grow new products. Farmers would be able to grow crops that would be used to produce energy, but they would not take away crops that are grown for food—for example, canola and soybeans—to be used for energy.

Am I somewhere on the right track?

Dr. Steve Fabijanski: You're exactly on the right track.

Mr. Bev Shipley: Would it not take out the same land that our soybeans and canola are grown on?

Dr. Steve Fabijanski: No. In the land categories across Canada, there are significant acreages that are considered to be category 3 or category 4 lands. Under typical climate conditions, you would not be able to raise any food crop there at a profit. Your inputs would be too high, your water requirements would be too high, and your fertilizer requirements would be too high.

That has actually driven the renewable carbon industry, if you will, to identify plants that are able to grow on marginal land with a lower input cost: lower water, lower fertilizer, and lower inputs from a weed control or pest control side. Inherently, these plants would be more resistant to insects and disease and better able to make use of the existing nutrients in the ground so that you don't have to add conventional fertilizer.

That is the way it needs to go for renewable energy. It is absolutely wrong to be diverting any food production into energy production to power our vehicles. Biotechnology offers not only a convenient but also a worthwhile solution to that challenge by being able to create and engineer a crop that requires less overall energy to process and to convert into liquid fuels for transportation.

Mr. Bev Shipley: Obviously, it would seem to me, with all the benefits that are coming from that.... You're talking about lower soil requirements and lower fertilizer requirements on a less productive soil. Is it a GMO?

Dr. Steve Fabijanski: The initial product will not be GMO, but in order to achieve the parity against petroleum, you will have to have it genetically modified to ensure that you can get the full opportunity for that crop to be able to produce oil.

● (1255)

Mr. Bev Shipley: Help me on where the research is on this, Steve, and then where we are—or where you are, I guess—in terms of taking the research that has been done. Where are you in terms of the development and the demonstration, and moving forward with it? Is there concern about the length of time it's going to take to actually get agriculture...?

I think somebody was saying in one of the presentations here that this part of the biotechnology industry is well known. I'm suggesting that actually what biotechnology is all about isn't very well known by Canadians or by the general consumer out there. We tend to focus on the issues that we've talked about here every meeting, it seems, but we're missing an opportunity that your company has in terms of moving ahead with a product that can grow on land that most likely has not been used for productive agriculture.

Dr. Steve Fabijanski: I'll try to get back to the beginning of that question.

Mr. Bev Shipley: Yes. I'm sorry about that.

Dr. Steve Fabijanski: In terms of where we're at on development, we will be launching our first product in 2012. It will not be genetically modified. Our genetically modified product will be in 2014.

In terms of grower demands and farmers' awareness of this, the Saskatchewan Mustard Development Commission has suggested to us that their initial take on this would be that they would like to buy seed to plant a minimum of 150,000 acres to start. They recognize that this is a huge opportunity for them, because they are saddled with the challenge of being in the drier areas and the poorer soil types that are used to grow mustards and not the canola types, and they need income diversification.

There's been quite a bit of recent survey work done across North America, and it suggests that up to 75% of the growers are looking for alternative crops for income diversification, income security, and being able to build new markets.

Mr. Bev Shipley: I think that in the area in Ontario where I come from, it may not be as much. We don't have much of that marginal land in the southwestern part of Ontario, but I can tell you that to the north, there would appear to me to be a lot of opportunities for agriculture.

Can you also talk about where this relates to...? I think you mentioned being carbon neutral. Where would that be in terms of other products or other options that are out there?

Dr. Steve Fabijanski: Well, plants take carbon from the atmosphere—greenhouse gases—and convert that carbon into hydrocarbons that we can use. That's why it becomes carbon neutral; we are actually not taking any fossil fuels from the ground and converting them to that.

What you're looking at is producing as much usable hydrocarbons on an acre of land with minimal costs and minimal amount of environmental footprint. By being able to reduce fertilizer requirements, reduce water use, reduce equipment time—with fewer passes in the field with the tractor, you're able to save on fuels—you're really looking at some significant benefits in terms of overall greenhouse gas savings.

As part of the SDTC funding that we have, we are actually quantifying that sustainability index. All governments are now looking at renewable fuels as having to have a life cycle analysis that demonstrates that indeed they provide a greenhouse gas benefit. I can tell you right now that corn ethanol does not, whereas an oil-based crop, such as biodiesel, does actually have the greenhouse gas benefits to allow it to claim that.

The Chair: You're out of time.

I'll move to Mr. Eyking for the last five minutes.

Hon. Mark Eyking: Thank you, Mr. Chair, and I thank the guests for coming today.

In *The Globe and Mail* today there's a whole issue on hunger. It seems that when you read all the different articles now, economics is second and food is first—how we're going to produce food, and how much we should produce. When you look at the whole science part of it, as MPs we're on an agriculture committee thinking about farmers and food production, but we also represent the constituents out there, and they're very concerned about food.

I think we have a problem with consumers getting a mixed message. The underdeveloped countries are only worried about starvation. Our constituents are more worried about food safety. I find the problem, no matter how much work we do here, which you say is science-based, is that we get these findings out of Europe. I don't know how true they are, and some of you can comment on that. They're giving GMO foods to mice, and this is happening. All this stuff is going on. We can laugh about it and shrug it off, but decision-making is sometimes not based on practicality and logic; it's based on emotion. The decision-making that happened in Europe was mostly emotional, but they made those decisions.

I'd like to have some comments on the so-called science that's out there and being portrayed. We try to steer away from the GMO topic, but it's the elephant in the room all the time. If we don't deal with it properly, it's going to hinder all the other things we're doing, so I'd like to have some comments about those studies that are coming forth in Europe, and the monster food, the GMOs. What can we tell our constituents about that part of it?

Mr. Ted Zettel: One of the things you have to conclude, as any rational person should, is that the science is mixed. If you had enough money, scientists could probably come up with whatever conclusion you were after, especially in the life sciences in the fields of biology, where we don't fully understand the mechanisms at work. Biology, ecology, and the health of people, animals, plants, and agricultural systems are very complex, and our understanding of them is in its infancy. That's a statement that good scientists around the world would agree with.

If we take that as a working hypothesis, what is the best and most sensible response? It is the precautionary principle that your colleague has alluded to. If we don't need something, stay away from it. If we really need it, as we do in the case of producing biofuels on marginal land, go for it. That is what I would tell your constituents if they asked me that question.

● (1300)

The Chair: Go ahead, Mr. Phillips.

Dr. Peter W.B. Phillips: You've asked the big question of the 21st century. How do you normalize science? How do you take all these different ideas and come to some conclusion?

There are a lot of processes. There isn't as much diversity in the scientific world as you might think. There's a strong central tendency to believe that so far, the technology as it is used has not generated differential risk in our food system. Remember, our food system isn't risk-free now. Most of the things that kill us have nothing to do with biotech.

That seems to be the norm, but the basic question that I think you're getting at is where you, as members of Parliament and the federal government, can play a role in normalizing and assisting us to understand this profusion of knowledge.

I'd make two points: one, I don't think you want to chase after every story in the newspaper, because the science is moving in fits and starts. Seldom is one new article going to change the general opinion on what science is about.

The second point is that I think the bureaucracy itself has a lot of capacity, but for the better part of 15 years it has not been part of normalizing the science in any substantive way. In the early days of biotech, Canada was very aggressive at the OECD. We normalized a lot of the science through consensus documents. We brought all that knowledge into a common platform so that people understood what it was about. I think we've devolved that responsibility to others. If we're going to be a player in the 21st century, we have to take some of that responsibility back in Canada.

The Chair: Thank you very much.

We are out of time. I'd like to thank all of our witnesses for being here today and for participating in this discussion. At some point we'll be putting out a report on the biotech industry, and it will be available. Thanks again.

The meeting is adjourned until Thursday.

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